

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matters of

Inquiry Concerning the Deployment of
Advanced Telecommunications Capability to
All Americans in a Reasonable and Timely
Fashion, and Possible Steps to Accelerate Such
Deployment Pursuant to Section 706 of the
Telecommunications Act of 1996, as Amended
by the Broadband Data Improvement Act

GN Docket No. 09-137

A National Broadband Plan for Our Future

GN Docket No. 09-51

**Comment on Notice of Inquiry by Wayne Longman
August 14, 2009**

Introduction

The Commission is asking if the data collection methodology used to determine “(if) broadband is being deployed to all Americans in a reasonable and timely fashion” is sufficient. The existing approach determines the market penetration of broadband service providers. One issue of concern is the proprietary nature of the information, causing it to be withheld from public view and independent analysis.

Another concern is that the information, in terms of GN Docket No. 09-51, is largely irrelevant with regard to the Broadband Initiative, in the sense that it reflects only the unplanned¹ deployment of data services in the U.S. and includes systems that are or will be obsolete in terms of existing and future broadband requirements. This unplanned deployment, lacking any of the standards or objectives that will arise from a National Broadband Plan, is not a pattern for what will be done in the future. In other words, we do not need more of the same, so while the status

¹ Versus “A National Broadband Plan for Our Future” that should plan change to broadband deployment in the U.S. (emphasis added)

quo data is enlightening, it will be a misuse to say the Nation's broadband needs are being met or will be met based on existing patterns, except in the few areas where fiber is already deployed. The Plan must address future requirements that will be quite different than those of today. The new Commission intends to be data driven. This data can only show how much we fall short of what we need in the future.

The following comments on the Commission's five questions attempt to define broadband in terms that are relevant to a new Plan.

(1) How should we define “advanced telecommunications capability” or “broadband?”

The characterization of broadband by eight tiers of traffic speed should be abandoned in terms of future planning as it no longer and falsely represents what is modern high speed data communication. It is misleading to characterize 1.5 Mb/s broadband as a nominal equivalent of 100Mb/s broadband. This tiered definition short-changes consumers by a type of bait and switch, where they may believe they are offered a modern broadband service, but not in reality. The definition of broadband is a fundament of the Broadband Initiative that should achieve the nation-wide provision of future-proof broadband by legislation, regulation, grants, spectrum and other incentives.

We are now entering an era where enterprises, governments and all the knowledge workers must have the best tools at work and home to compete in the new world economic order. Short changing them by perpetuating limited technologies might yield immediate gains to the proponents of those limited systems, but it cannot satisfy our transition to the data-centric world, and keep us there in the future. The use of the broadband rubric should not result in the provisioning of low capacity² networks in lieu of leading edge delivery systems, notionally satisfying user aspirations, but actually subverting them.

We are seeing a steady escalation of broadband data speeds, so the definition of broadband by specific speed will undoubtedly result in an obsolete standard. Early demands for higher digital

² A low capacity network could be defined as any that is incapable of data speeds of the best, i.e. fiber, for non-mobile application

speeds arose from the telco's conversion from analog to digital transmission that also gave rise to consumer DSL. It was further driven by the Internet and user technology evolution, and more recently influenced by DTV. Now we see IPTV, and perhaps in 10 years we will see something like 4k 3D HDTV³, with 10 channel audio, requiring about ten times the current HDTV data speeds. If high speed were defined by current HDTV needs, it could result in the widespread deployment of broadband systems that can't be expanded beyond that data speed. In such an environment things like 4k 3D HDTV development would not happen, at least not in the U.S. The same shortfall exists for every traffic tier below tier 8. The perpetuation of those tiers is an institutional guarantee that Americans will not have access to future-proof broadband.

Instead of speeds, the US should define broadband by its transmission modalities. This is important because governments and industry should focus on the absolute best broadband access mode for each user experience.

Fixed or Mobile Broadband should be defined as according to the mobility, or lack thereof, of the user situation, and treated separately. The difference between mobile and fixed users of broadband is caused by the physical limitations of portable terminals, and the limitations of user attention while in motion.⁴ Mobile broadband systems must deal with issues such as cell-size, hand-offs, vehicle speeds, interference, reflections, that are optimized for mobile and not fixed uses.

Fixed users are not fundamentally hindered by terminal sizes or capacity, electrical power, or work environment, and use applications that require high bandwidths for large displays, data retrieval and storage capacities and computational power. A further division of fixed broadband by radio or physical connection is useful, since radio cannot match the maximum capacities or reliability of a physical plant.

Within this modality tree there are an infinite number of data speeds, depending on the actual application in use. The actual speeds are unimportant as long as a future-proof broadband promise is fulfilled. This also means that fixed broadband users should not be considered to be

³ 4k HDTV would have 4 times as much screen data as HDTV, 3D would double that.

⁴ There are exceptions, such as a mobile MRI unit, that may want to transmit MRI image data to a central point, but this is far from typical. It is difficult to imagine a true mobile app that would require fiber data speeds.

satisfied by mobile broadband systems, and if it is at all economically feasible they should not be satisfied by fixed radio systems in lieu of physical plant, particularly fiber. This places less demand on mobile systems, frees spectrum and increases investment in fiber that can be expanded in capacity at will.

(2) Is broadband available to all Americans?

No. Broadband access that is not already or will be obsolete and is future proof is available only to those relatively few served by fiber. Mobile broadband is a special and limited case of broadband and should not be considered as part of the current initiative, or at least separately, as mobile broadband user applications (because of portable terminal limitations) will never have the capacity demands of fixed users. Fiber broadband should be available to all Americans to the maximum extent possible.

(3) Is the current level of broadband deployment reasonable and timely?

No. In the sense of an “unplanned” ad hoc environment, one could expect no better, and thus be considered reasonable and timely, but with high-speed broadband as a national necessity, it falls far short. In terms of the future, only a few percent of Americans who have fiber access have a reasonable and timely deployment. However, fiber will never be widely deployed if it is left to market forces alone. The lesser alternatives to fiber, if encouraged, will permanently fragment the broadband market and diminish fiber penetration. The need for a quick return on commercial investment will prohibit fiber deployment in high cost or low income areas, left to market forces alone. The U.S. Government should make fiber deployment its first broadband priority.

(4) What actions, if any, should the Commission take to accelerate broadband deployment?

Establish future-proof broadband as a national priority, facilitate local governments to deploy and regulate broadband as a local public utility, and create disincentives for mobile and fixed radio cherry-picking of data communication markets. It should also ensure market forces apply to broadband service and pricing by enabling ISP competition for or within the same fiber.

(5) What actions should the Commission take to improve its regular broadband data collection efforts?

Rather than count the number of customers, their location and pricing, the Commission should examine the physical plant deployment of broadband at street level. The issues of actual numbers of paying users and data speeds are only a snapshot of what has happened, and not a plan for the future.

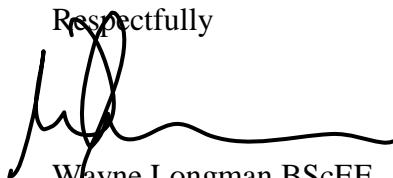
As described above, there is little or no correlation between mobile broadband needs or deployment and those of fixed broadband users. Any data collected should not be construed to consider that fixed broadband users are being served by mobile broadband systems. Those differences in needs are so large that broadband mobile infrastructure information and discussion should be kept separate, recognizing the demand for both are growing, albeit differently.

The Commission should not use information as justification for retaining the status quo in any way, as the status quo will not satisfy demand in a few short years. The Commission should concern itself with the deployment of the network of “pipes”, and less with what’s in them and who is using them. If the Commission sets the right incentives, higher speeds and higher adoption rates at lower overall cost will naturally occur.

Conclusion

The Commission should not use the existing Section 706 data as the standard for the Broadband Initiative as it reflects obsolete and “unplanned” broadband systems. It should collect and use data on fixed and mobile systems separately, and that data should be in terms of street-level network deployment, rather than market penetration. The National Plan should encourage and provide for future-proof fiber broadband systems and any data collection should further that goal. We should not walk forward while looking backwards.

Respectfully

A handwritten signature in black ink, appearing to read 'Wayne Longman', with a long horizontal flourish extending to the right.

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